PostScript..

"At Face Value": age progression software provides personalised demonstration of the effects of smoking on appearance

The Task Force for Tobacco-Free Women and Girls in New York State is utilising a computer software program that provides personalised, science based illustrations of how smoking can affect facial appearance. The task force developed this program at the urging of young people who entered a 1998 essay contest in which middle and high school students were asked to submit their ideas for strategies to help girls reject tobacco. Twenty four per cent of the 2000 entrants from across the state advised that knowledge of the unattractive effects of tobacco use would deter girls from smoking. Their idea is supported by studies suggesting that self image and perception of smoker stereotype can play a role in the decision to initiate smoking.[1–3] Several of the students specifically recommended the use of computer imaging.

Task force members reviewed available literature on the association between smoking and premature facial wrinkling[4–8] and provided parameters for customisation of the APRIL (age progression image launcher) program by its creators at C.O.R.E. Digital Productions, Inc in Toronto, Ontario, Canada. The original version of this program ages a picture of an 8 year old child to approximately age 80. The "At Face Value" adaptation is designed to add about 30 years to an adolescent face, in two versions: one as a non-smoker and another with the premature wrinkling and unhealthy skin tone of a pack-a-day smoker. The software is unique in that its wrinkling/aging algorithms are based upon photographs of a population cohort of 2000 persons and on published data regarding facial changes associated with aging; therefore, the aging/wrinkling images are based in science and are not an artist's rendition of aging or the effects of cigarettes on facial wrinkling.

Demonstrations require approximately five minutes each, beginning with a photograph taken by a digital camera connected to the computer. The participant's sex and ethnic group are entered. When the picture is downloaded into the program, blue dots appear around the eyes, nose, and other "landmarks" of the face, identifying key positions to be employed in the aging progression. If necessary, the operator can refine the position of the dots by dragging them with the mouse. The picture is then processed within 55 seconds, producing a file of 21 pairs of pictures, beginning with two identical current pictures and progressing to two versions that illustrate how the participant might look in about 30 years (fig 1). Both versions reflect the structural changes that faces undergo in the normal aging process. The series of pictures can be animated to "morph" from the current to the future.

"At Face Value" is provided as a stand alone presentation, without any other tobacco use prevention program on that day, to allow for evaluation of its impact independent of other interventions. Questions asked by students are answered, however, and the New York State Smokers' Quitline telephone number is provided to those interested in cessation. An LCD projector can be used to show the images to a class of students or a larger audience, but smaller groups are preferred. Most people want to see their own picture and several peers' pictures and then move on. Approximately 10 feet by 10 feet (3 × 3 m) of floor space is needed, in an area where light from any other sources can be controlled. Hardware requirements include a PC or laptop computer with three dimensional graphics accelerator, compatible digital camera with tripod, a black backdrop, and two photography lights with stands and dimmers. Each software license is US$5000.

Participating middle, high school, and college students completed surveys before and after being photographed, to establish their prior experiences with tobacco and to detect changes in attitudes about tobacco. The demonstration appears to affect current smokers and never smokers in different ways. In early data, smokers have shown significant change between pre- and post-demonstration responses to the questions: "Do you think that you will smoke a cigarette anytime during the next year?" (86.7% answered "Yes" pre; 73.3% post; p = 0.000) and "I think that becoming a smoker reflects poor judgment" (33.3% answered "Yes" pre; 43.5% post; p = 0.028). Never smokers, on the other hand, have indicated a change in attitude on the questions: "Do you think that people risk harming themselves if they smoke one or less than one cigarette per day?" (79.2% answered "Yes" pre; 92.1% post; p = 0.001) and "Does concern about your appearance affect the choices you make from day to day?" (68.4% answered "Yes" pre; 78.5% post; p = 0.043).

This intervention tool often evokes strong reactions from young people. Shrieks, laughter, and exclamations of "I'm never going to look like that!" are frequent. Stunned silence is also common. Many participants comment that in their "aged" versions they resemble an older relative, supporting the software's projection of future appearance.

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Figure 1 Computer simulation of aging in a smoker and non-smoker.

Subsidised nicotine replacement therapy

Miller *et al* present results from a workplace based smoking cessation study where 39% of nicotine replacement therapy (NRT) vouchers were redeemed for NRT patches for half the recommended retail price (RRP $US170, subsidised to US$85).[1] However, the authors conclude that cost may not be a barrier to accessing NRT. The New Zealand experience shows that heavily subsidised NRT (92%)